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Alvin J. Riddles Candlewood Isle Box 34 New Fairfield, CT 06812				EVANISKO, LESLIE J
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/037,251

Filing Date: January 04, 2002

Appellant(s): HOUGHAM ET AL.

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Alvin J. Riddles  
For Appellant

EXAMINER'S ANSWER

MAILED

FEB 2<sup>nd</sup> 2006

GROUP 2800

This is in response to the appeal brief filed September 13, 2005 appealing from the Office action mailed June 13, 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct in that claims 1-10 are appealed. However, it is noted that applicant states in section (iii) on page 2 of the appeal brief dated September 13, 2005 that "claims 1-10 stand finally rejected in a 5/06/04 final rejection and also stand rejected in a 06/13/05 prosecution reopening office action". The Examiner points out that only the rejections set forth in the June 13, 2005 office action remain in the application, since the previous rejections (in a final rejection actually dated April 22, 2004) have been withdrawn in lieu of the rejections set forth in the June 13, 2005 office action.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

### **(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is not completely correct, particularly with respect to the correlation between the claims and drawings/specification set forth on page 4 of the brief filed September 13, 2005.

In particular, the Examiner points out that the text of the summary of claimed subject matter on page 3 of the brief appears to be accurate and is consistent with the specification, in that applicant's invention is understood to be drawn to a microcontact printing stamp product having multiple layers imparting different properties to the stamp. It is further noted by the Examiner that the specification and drawings give a detailed explanation of how the finished stamp is fabricated using intermediate structures to form the finished stamp by a molding process. It is the Examiner's understanding that the claims are intended to be drawn to the finished stamp shown in Figures 1E, Figure 2 (step 4), and Figure 3e. However, in the section of the summary of claimed subject matter in which applicant provides the correlation between the claimed structure and specific reference numerals or areas of the specification, applicant contends that some of the claimed structure are elements of the intermediate members. The Examiner believes this is incorrect and does not make sense. For example, with respect to claim 1, the designation of the surface being 11 and the substrate being 12 (as shown in Figure 1) seems inaccurate since it would appear that the surface being referred to (based on the context of the claim language) is the surface of a substrate receiving with the further processing responsive material by being brought into contact with the finished stamp member

during use of the stamp member. Furthermore, the subsurface region being designated as elements 21, 23 and 24 seems inaccurate, particularly since region 24 appears in Figure 1 to show a surface region (not subsurface region) and reference numeral 23 is designating the stamp as a whole.

In an effort to advance prosecution, the Examiner has assumed that applicant is intending to claim the finished stamp shown in Figures 1E, Figure 2 (step 4) and Figure 3e. In that regards, the stamp member of claim 1 is assumed to be stamp 23, the surface region referred to in claim 1 is assumed to be either material 13 (which becomes the positive relief siloxane element 24) or element 24 itself, and the subsurface region is assumed to be the bulk layer 21. Note the additional subsurface region described in claims 4-5 is assumed to be material 26 described on pages 9-10 of the specification. Note claim 6 seems to reinforce this interpretation since the specification clearly states that material 13 is Dow Corning Sylgard 184 (page 5, lines 4-5) and material 21 is Dow Corning Sylgard 186 (page 6, lines 4-9). Note claim 7 has been interpreted in a similar manner, with the body being element 21 and the stamping pattern layer being material 13 or element 24.

## **(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

### **WITHDRAWN REJECTIONS**

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner.

Art Unit: 2854

Upon further consideration, the 35 USC 112, second paragraph rejection of claims 1 and 7 with respect to the use of relative terms such as “wettability enhancement,” “adhesion enhancement,” “stiffness,” “flatness,” “porosity,” etc. has been withdrawn by the Examiner.

Furthermore, it is noted that applicant refers to the various rejections presented in the Non-Final rejection dated June 13, 2005 as well as various rejections previously presented in the Final Rejection dated April 22, 2004. However, the Examiner points out that the 35 USC 112 and prior art rejections presented in the Final Rejection dated April 22, 2004 were withdrawn in lieu of the 35 USC 112 and prior art rejections set forth in the Non-Final rejection dated June 13, 2005. Therefore, grounds of rejection and subsequent arguments submitted by applicant regarding the rejections set forth in the Final Rejection dated April 22, 2004 will not be addressed by the Examiner since these rejections have been withdrawn.

In particular, the Examiner will not address grounds (2), (3), or (4) set forth in section (vi) on page 6 of the brief, since the rejection(s) of the claims with Maracus et al. and/or Fugimora have been withdrawn. Therefore, the Examiner’s Answer will specifically address the following rejections (as specifically set forth in the Office Action dated June 13, 2005) and applicants associated arguments for these rejections:

- The 35 USC 112, second paragraph rejection of claims 1-10, with the exception of the rejection that has been withdrawn as discussed above.
- The 35 USC 102 rejection of claims 1-5 and 7-9 as being anticipated by Blees et al. (US 6,739,255).

- The 35 USC 103 rejection of claims 6 and 10 as being unpatentable over Blees et al. (US 6,739,255) in view of Kumar (US 5,512,131).

### **(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

### **(8) Evidence Relied Upon**

<b>6,739,255 B2</b>	<b>BLEES et al.</b>	<b>05-2004</b>
<b>5,512,131</b>	<b>KUMAR</b>	<b>04-1996</b>

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

#### **Claim Rejections - 35 USC § 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, the exact scope of the claim is unclear, particularly with respect to the phrase "said elastomeric stamp member having a surface region of a

material imparting to said stamp member at least one of the properties of adhesion and wettability enhancement of the material of said circuitry pattern to said surface region." (emphasis added). This language is confusing, particularly since it is not clear if applicant is referring to the further processing responsive "material" recited in the preamble and to the material comprising the electronic circuitry pattern. In particular, the way the claim is written, it appears that the electronic circuitry pattern recited is intended to be the surface of the stamp which receives the material to be transferred. Therefore, it is not clear if the applicant is claiming that a) the stamp member has a surface to which the electronic circuitry pattern (which receives the further processing responsive material to be transferred to the substrate) adheres better or that b) the further processing responsive material adheres better to the circuitry pattern surface. From the general context of the specification (see, for example, page 9, lines 6-7), as well as the wording of claim 7, it appears that applicant is intending for the claim to have the second meaning-- that the stamp pattern has optimal wettability or adhesion properties for holding the material to be transferred to the substrate. However, appropriate correction and/or clarification is required.

With respect to claims 4 and 5, each of the claims is confusing in scope and meaning and appears to be modifying rather than further limiting the parent claim. In particular, claims 2 and 3 recite that the region is a single region, but claims 4 and 5 appear to reciting that the subsurface region has another region. To correct this problem, it is suggested that claims 2 and 3 be amended to remove the language regarding the single region and then claims 4 and 5 be amended to include language such as the following: --...wherein said at least one subsurface region comprises another

region, said another region imparting the property of porosity to said stamp member and being positioned between...--

With respect to claim 7, the language in lines 6-8 is unclear in meaning and appears to be improperly reciting a method of manufacture step, thereby rendering the scope of the claim confusing and unclear. In particular, the claim is drawn to a microcontact printing stamp (which is assumed by the Examiner to be drawn to the finished stamp described in the specification). However, applicant then appears to recite patterning layers of the intermediate product during the formation of the final stamp. Therefore, it is not clear whether applicant is intending to claim the finished stamp as disclosed or something else.

Appropriate correction and/or clarification is required.

Claims 6 and 10 appear to contain the trademark/trade name(s) Dow Corning Sylgard siloxane 184 and 186. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the material of the stamping layers and, accordingly, the identification/description is indefinite.

Appropriate correction and/or clarification is required.

In an effort to advance prosecution of the application, the Examiner has interpreted the scope of the claims as best she can and the following rejection(s) are deemed appropriate:

### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Blees et al. (US 6,739,255 B2). Blees et al. teach an elastomeric stamp member **10** for microcontact printing of electronic components, the stamp having a surface region **2** of a material (i.e., PDMS) imparting at least one of the properties of adhesion and wettability enhancement (see column 2, lines 5-14) and at least one subsurface region (any of regions **3** or **4**) of a material imparting a particular physical property (i.e., stiffness, adhesion, porosity) to the stamp member. See Figures 1-5 and columns 1-3 in particular. Note that since the surface region of the stamp of Blees et al. is made of the same material as applicant is disclosing, it would inherently have the same material properties (i.e., adhesion or wettability enhancement).

With respect to claim 2, note either the subsurface **3** or **4** provide the property of stiffness to the stamp member, at least to some extent. See column 2, lines 15-22 and column 3, lines 22-24 in particular.

With respect to claim 3, again note the reservoir subsurface region **3**, which supplies ink to the printing face during use, is broadly capable of imparting the property of wettability enhancement to the stamp member. See column 1, lines 49-53 and column 3, lines 13-21 in particular.

With respect to claims 4 and 8-9, note the stamp also includes another region (i.e., carrier body layer **4**) arranged between stamp body region **1** and reservoir region **3** that can broadly be considered to impart the property of porosity to the stamp. See column 3, lines 6-10 in particular.

With respect to claim 5, note the stamp also includes another region (i.e., carrier body layer **4**) arranged between stamp body region **1** and reservoir region **3** that can broadly be considered to impart the property of porosity to the stamp. See column 3, lines 6-10 in particular.

With respect to claim 7, note Blees et al. teach a microcontact printing stamp **10** comprising a body **3** having a layer imparting a bulk stiffness and flatness physical property on which there is a stamping pattern surface **1**, and a stamping pattern layer **2** on the stamping pattern supporting surface of the body and being a material capable of being “electronic circuitry processable material” and having at least one of the physical properties of adhesion enhancement and wettability enhancement. Note that the language in lines 6-8 regarding the manufacture of the stamp has not been given any patentable weight since in product by process type claims, determination of

patentability is based on the product itself (and does not depend upon the method of production). See MPEP 2113. Therefore, since the stamp of Blees et al. has a stamping pattern layer including a stamping pattern as recited, it meets the claim language as recited.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blees et al. (US 6,739,255 B2) in view of Kumar (US 5,512,131). Blees et al. teach an elastomeric microcontact printing stamp as recited including the surface region

comprising Dow Corning Sylgard 184 (see column 5, line 60). Although Blees et al. does not specifically teach the subsurface region of the stamp is comprised of the material Dow Corning Sylgard 186, note the selection of the optimum material for regions or layers of the stamp could easily be determined through obvious routine experimentation. Furthermore, the use of Dow Corning Sylgard 186 in microcontact stamping devices is well known in the art, as exemplified by Kumar et al. in column 8, lines 50-58. Therefore, there is no unobviousness in using any selected material, such as siloxane 184 and siloxane 186, for the regions or layers of the stamp of Blees et al., as it would simply require the obvious selection of a known material based upon its known properties to provide a stamp member with appropriate physical properties to provide accurate printing.

#### **(10) Response to Argument**

Applicant's arguments filed September 13, 2005 have been fully considered but they are not persuasive of any error in the above rejections. Again, note that the arguments with respect to grounds 2, 3, and 4 are not addressed by the Examiner since these rejections were previously withdrawn by the Examiner in lieu of the rejections set forth in the Office Action dated June 13, 2005.

#### **With respect to the 35 USC 112 rejections (ground 1):**

With respect to claim 1, Applicant fails to specifically address the rejection regarding the confusing language "said elastomeric stamp member having a surface region of a material imparting to said stamp member at least one of the properties of

adhesion and wettability enhancement *of the material of said circuitry pattern to said surface region.*" The Examiner therefore maintains that the rejection of the claims is appropriate. Furthermore, the Examiner points out that the specification repeatedly refers to the enhanced wettability properties of the surface of the stamp so that the liquid used as the seed material in the plating more easily wets the substrate on which the plating is to take place. See, for example, page 3, lines 15-16, page 7, lines 13-15, and page 9, lines 7-8 of the specification as well as lines 4-6 of the summary of claimed subject matter presented in the appeal brief dated September 13, 2005. Therefore, it appears that claim 1, as currently written, may be claiming a relationship that is not consistent with or supported by the disclosure and this makes the exact scope of claim 1 unclear. Additional attention is invited to the above discussion of inaccuracies in applicant's summary of the claimed subject matter and the resulting confusion.

Additionally, applicant also does not specifically address the 35 USC 112 rejections of claims 4-5 and claim 7. Therefore, the Examiner again maintains that the rejections of these claims are appropriate. With respect to claim 7, again the Examiner points out that the stamping pattern layer having the negative relief stamping pattern is part of the intermediate stamp member used to form the final stamp and therefore is not part of the final stamp product.

With respect to the rejection of claims 6 and 10, although applicant now concedes that the term SYLGARD should be capitalized in the disclosure since it is a trademark, applicant fails to specifically address the rejection of claim 6 and 10 as being indefinite for use of a trademark in a claim. The Examiner maintains her position that the use of trademarks/trade names in the claims renders the exact scope of the claims unclear, as

set forth in the Examiner's claim rejection above. See MPEP 608.01(v) and 2173.05(u) in particular.

**With respect to the 35 USC 102 rejection (ground 5):**

Applicant argues that Blees et al. do not teach all of applicant's limitations and that applicant's claims distinguish by having superimposed layers in the stamp. The Examiner disagrees with this argument. In particular, the Examiner points out that claim 1 as written does not require the stamp to have superimposed layers since it merely recites different "regions" of the stamp members and never clearly recites those regions are superimposed. Regardless of that fact, it is the Examiner's position that the stamp of Blees et al. does include superimposed layers, as exemplified by the layers 1, 3, 4 shown in Figures 1 and 5 in particular.

**With respect to the 35 USC 103 rejection (ground 6):**

Applicant argues that the Examiner uses improper hindsight in combining the teachings of Kumar with the teachings of Blees et al. Specifically, the applicant argues that "the existence of a material does not assure that it would occur to one skilled in the art to use it in a certain way or in a certain place."

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does

not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Clearly the use of materials such as SYLGARD 184 and 186 in the fabrication of microcontact printing stamps was well known in the art, as exemplified by the teachings of Blees et al. and Kumar. Furthermore, Blees et al. and Kumar do more than show the mere existence of these particular materials since they teach using these materials in microcontact printing environments similar to applicant's invention. Therefore, it is the Examiner's position that one of ordinary skill in the art would recognize the benefit in using the materials taught by these references in a microcontact printing stamp to provide a stamp member with the desired physical properties to provide clear printing.

In view of the above reasoning, the Examiner is not persuaded of any error in her rejections.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

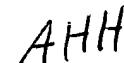
Respectfully submitted,



Leslie J. Evanisko

Primary Examiner  
TC 2800

Conferees:

  
Andrew Hirshfeld

Supervisory Patent Examiner  
AU 2854

  
Dave Porta

Supervisory Patent Examiner  
AU 2884